DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	CHALK POND	Lake Area (ha):	8.50
Town:	NEWBURY	Maximum depth (m):	3.6
County:	Merrimack	Mean depth (m):	2.0
River Basin:	Connecticut	Volume (m^3):	166500
Latitude:	43°21' N	Relative depth:	1.1
Longitude:	72°01' W	Shore configuration:	1.55
Elevation (ft):	1252	Areal water load (m/yr):	9.05
Shore length (m):	1600	Flushing rate (yr^{-1}):	4.60
Watershed area (ha):	137.3	P retention coeff.:	0.56
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:	29 January 1987	1 July 1986
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 74%	RHIZOSOLENIA 40%
#2		TABELLARIA 30%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		500.0
CHLOROPHYLL-A (µg/L)		1.57
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 46%	KERATELLA 59%
#2	SYNCHAETA 46%	
#3		
ROTIFERS/LITER	24	26
MICROCRUSTACEA/LITER		11
ZOOPLANKTON ABUNDANCE (#/L)	24	37
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		3.5 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)	5.9	8.8
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m^3): None

CHEMICAL:

Lake: CHALK POND
Town: NEWBURY

	29 January 1987		1 July 1986		
DEPTH (m)	1.0	2.0	1.0		3.0
pH (units)	5.6	5.6	6.4		6.1
A.N.C. (Alkalinity)	2.0	3.0	1.4		1.2
NITRATE & NITRITE NITROGEN	0.06	0.08	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.60	0.50	0.35		0.50
TOTAL PHOSPHORUS	0.004	0.003	0.009		0.011
CONDUCTIVITY (μ mhos/cm)	32.7	40.7	34.5		35.3
APPARENT COLOR (cpu)	7	8	< 5		
MAGNESIUM			0.29		
CALCIUM			2.0		
SODIUM			3.0		
POTASSIUM			0.40		
CHLORIDE	3	4	4		4
SULFATE	6	6			
TN : TP	165	193	39		45
CALCITE SATURATION INDEX			4.4		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1986

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	1	2	0	3	Oligo.

COMMENTS:

1. No public access to the pond.
2. Lake residents claimed that outboard motors were not allowed, but no restrictions were listed under the Department of Safety laws and regulations.
3. The whole water phytoplankton were dominated by a solitary Dinobryon (35%), and the golden algae made up 45% of the algae classes.

CHALK POND

NEWBURY

Rough Bathymetric Chart
WSPCD - 1986
sounded by fathometer

5 foot isobaths

FIELD DATA SHEET

LAKE: CHALK POND TOWN: NEWBURY
DATE: 07/01/86 WEATHER: SUNNY, WINDY

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	20.5	8.6	92 %
	1.0	20.5	8.6	92 %
	2.0	20.5	8.6	92 %
	3.0	19.9	8.8	94 %
	3.5	19.9	8.8	94 %

SECCHI DISK (m): 3.5 VOB COMMENTS: Water was extremely clear.

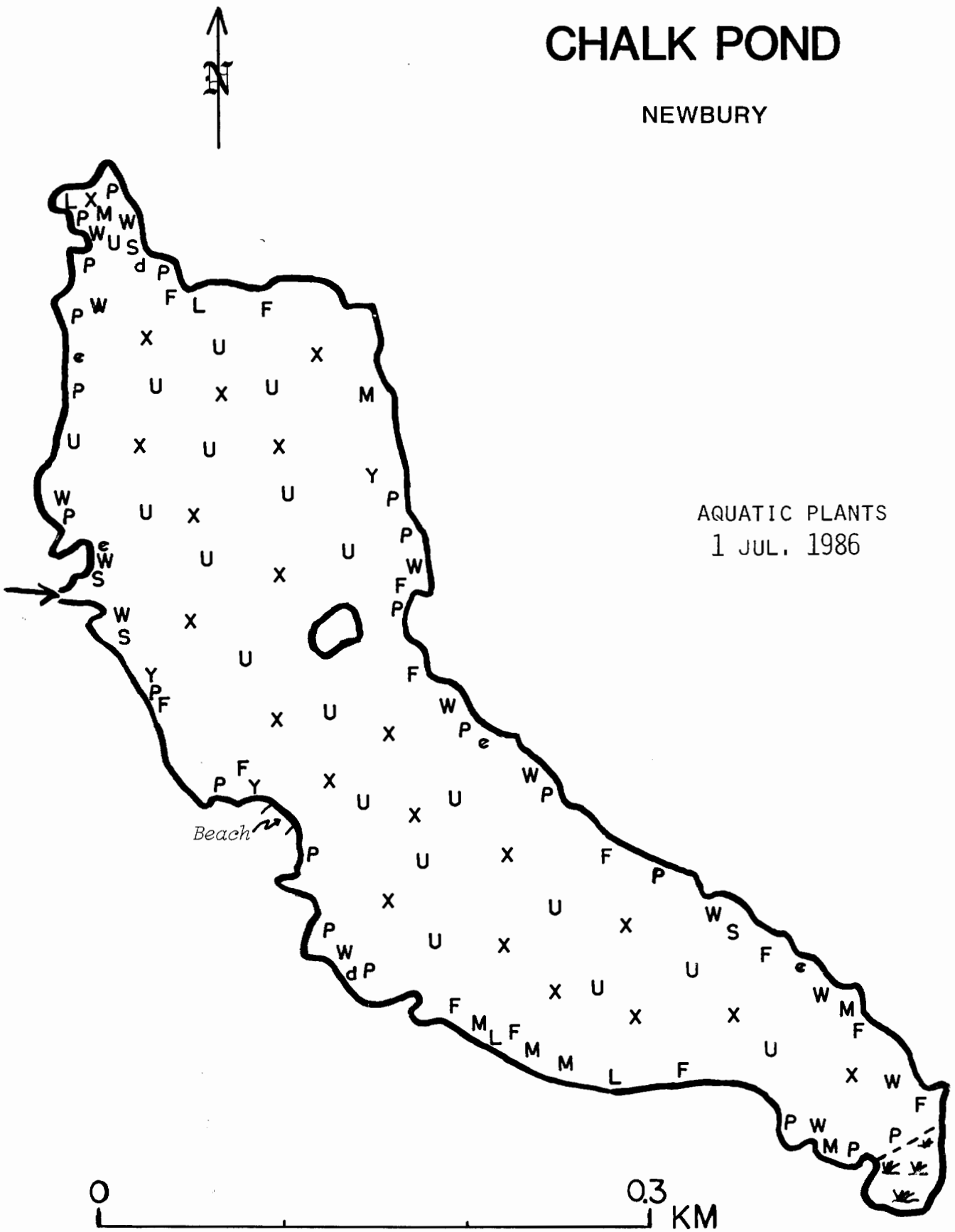
BOTTOM DEPTH (m): 3.5

TIME: 1200

*Dissolved oxygen values are in mg/L

CHALK POND

NEWBURY



AQUATIC PLANTS
1 JUL. 1986

AQUATIC PLANT SURVEY

LAKE: CHALK POND TOWN: NEWBURY DATE: 07/01/86

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
F	Nymphoides cordatum	Floating heart	Scattered
W	Potamogeton	Pondweed	Scattered
P	Pontederia cordata	Pickerelweed	Scattered
e	Eriocaulon septangulare	Pipewort	Scattered
S	Sparganium	Bur reed	Scattered
L	Lobelia dortmanna	Water lobelia	Scattered
M	Myriophyllum humile	Water milfoil	Common
d	Dulichium arundinaceum	Three-way sedge	Scattered
Y	Nuphar	Yellow water lily	Sparse
U	Utricularia	Bladderwort	Common
X		Bottom growth	Common

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

1. Plants were scattered along the shore; the pond bottom was completely covered by bladderwort and other bottom growth.
2. Freshwater sponges were observed.